

**FIELD ACTIVITIES OVERSIGHT REPORT  
GULFCO MARINE MAINTENANCE SITE, FREEPORT, TEXAS  
OVERSIGHT AND SPLIT SAMPLING ACTIVITIES  
CONDUCTED FROM 27 NOVEMBER – 7 DECEMBER 2006**

This Field Activities Oversight Report summarizes remedial investigation/feasibility study (RI/FS) oversight and split sampling activities conducted from 27 November – 7 December 2006 at the Gulfco Marine Maintenance (Gulfco) Superfund Site, Freeport, Texas. As requested by the U.S. Environmental Protection Agency (EPA), EA Engineering, Science, and Technology, Inc. (EA) performed oversight of fish/crab tissue and sediment/surface water sampling conducted by Benchmark Ecological Services, Inc. (BESI), a lower-tiered subcontractor to the potentially responsible party (PRP)'s primary consultant, Pastor, Behling & Wheeler, LLC (PBW). Additionally, EA obtained split samples of fish/crab tissue, sediment, and surface water, as directed by EPA.

Participants included:

- Mr. Gary Miller, EPA
- Mr. Barry Forsythe, U.S. Fish and Wildlife Service (USFWS)
- Mr. Eric Pastor, PBW
- Mr. Neil Henthorne, BESI
- Mr. David Marhather, BESI
- Ms. Tammy Jean Brasher, Clean Harbors Environmental Services
- Mr. Doug McReynolds, EA (Week 1: 27 – 30 November 2006)
- Mr. Duane Thomas, EA (Week 2: 4 – 7 December 2006)

According to EA oversight personnel, BESI performed field activities in accordance with applicable standard operating procedures (SOPs) and the following EPA-approved plans:

- PBW's RI/FS Work Plan (May 2005)
- PBW's Sampling and Analysis Plan (SAP) (May 2006)
- PBW's Addenda to the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) (November 2006).

## **HEALTH AND SAFETY**

BESI provided safety orientation to EA oversight personnel regarding boat safety prior to their participation in fish sampling activities; however, daily health and safety briefings (i.e., tailgate meetings) were not conducted.

## WEATHER CONDITIONS

From 27 – 30 November 2006, daily temperatures remained in the 80s °F with rainfall on Monday afternoon, 27 December.

From 4 – 7 December 2006, daily temperatures remained in the 60s °F. Skies were overcast with slight rainfall on 6 December.

## SITE ACTIVITIES

### 27 November 2006

At 1354 hours, EA arrived at 110 Redfish Lane in Freeport, Texas, a rental property near the site where BESI docks their fishing boat. EA contacted BESI staff, who were out on the water with USFWS setting the crab traps, and arranged to meet with them later.

From 1604 – 1923 hours, EA conducted oversight of BESI, while they set 3½- and 5-inch gill nets in Zones 1 through 4 and the Background Area (Photographs 1 – 4).

Due to limited space on the boat and health and safety considerations, BESI would only allow one oversight person onboard during open water activities (maximum occupancy of 3 persons). USFWS agreed to provide oversight during collection and resetting of gill nets scheduled for 2300 hours that evening and approximately 0630 hours the following morning (28 November).

BESI outlined daily fish and crab sampling logistics for EA as follows:

- Morning of first day – set crab traps
- Afternoon of first day – set gill nets
- ~2300 hours – collect fish and reset gill nets
- ~0700 hours –collect fish; collect crabs and reset crab traps
- Process fish tissue samples first, then crab tissue samples
- Reset gill nets for evening catch

Table 1 summarizes BESI's sample quantity requirements.

**TABLE 1 FISH/CRAB TISSUE SAMPLE QUANTITY REQUIREMENTS**

Target Species	Legal Limits (inches)	Site Area (Zones 1 - 4)		Background Area	
		No. of Specimens per Sample	No. of Samples	No. of Specimens per Sample	No. of Samples
Spotted sea trout	15 – no limit	1	9	1	9
Red drum	20 - 28	1	9	1	9
Southern flounder	14 – no limit	1	9	1	9
Blue crab	> 5	3	9	3	9

**28 November 2006**

From 0627 – 0954 hours, USFWS provided oversight of BESI's fish and crab collection activities. EA noted that few fish were collected during the previous evening's catch. EA observed open water activities from shore, as feasible.

At 0940 hours, EPA arrived onsite and met with EA. EA informed EPA that BESI was postponing sediment sampling until the following week.

At 0954 hours, BESI returned to their dock at 110 Redfish Lane to begin processing samples. EA noted that several fish and crabs were harvested during the morning catch.

At 1058 hours, BESI began processing fish collected from the Background Area, including 7 southern flounder, 1 spotted sea trout, 1 red drum, and 1 black drum (Photographs 5 and 6).

At 1134 hours, BESI began processing fish collected from the Site Area (Zones 1 and 2), including 2 southern flounder, 2 spotted sea trout, 1 red drum, 2 sheepshead (alternate target species), and 2 Atlantic croaker. USFWS noted no morphologies or ulcers on any of the fish collected. No target species of finfish were caught in the Zone 3 and 4 gill nets.

At 1300 hours, BESI began collecting a sample subset of the spotted sea trout collected from Zone 1 (EA split sample IWST00102-EPA). BESI processed and sampled the fish tissue in adherence with PBW's SAP (May 2006) and Addenda to the FSP and QAPP (November 2006), and BESI SOP 509 (Fish Tissue Processing) with the one exception: rather than weighing the fillets on hexane-rinsed aluminum foil, the fillets were cut into cubes, and placed into tared sample containers, which were then re-weighed (Photograph 7).

At 1306 hours, BESI began collecting a sample subset of the red drum collected from Zone 2. Following the same protocol outlined above, BESI filled each sample container (EA split sample IWST00101-EPA).

At 1320 hours, BESI began collecting a sample subset of the southern flounder collected from Zone 1. Following the same protocol outlined above, BESI filled each sample container (EA split sample IWSF00301-EPA).

At 1336 hours, BESI began processing blue crab collected from the Site Area (Zone 2) and the Background Area (Photograph 8). USFWS noted no morphologies or ulcers on any of the crabs collected.

At 1505 hours, BESI began collecting a sample subset of the blue crab collected from the Background Area (Photograph 9). BESI processed and sampled the blue crab in adherence with PBW's SAP (May 2006) and Addenda to the FSP and QAPP (November 2006), as well as BESI's SOP 507 (Crab Tissue Processing). EA did obtain a split sample for this location.

At 1635 hours, BESI began collecting a sample subset of the blue crab collected from Zone 2. Following the same protocol outlined above, BESI filled each sample container (EA split sample IWBC00403-EPA).

Table 2 summarizes the fish/crab tissue split samples collected from 27 – 28 November 2006.

**TABLE 2 EA FISH/CRAB SPLIT SAMPLE SUMMARY (27 – 28 NOVEMBER 2006)**

BESI Sample ID	Target Species	Zone	Date Collected	Time Collected	EA Split Sample ID	EA Split Sample Weight (gram)
IW-ST-00102	Spotted sea trout	1	11/27/06	2322 hours	IWST00102-EPA	109.1
IW-ST-00101	Red drum	2	11/27/06	2322 hours	IWST00101-EPA	187.3
IW-SF-00301	Southern flounder	1	11/28/06	0647 hours	IWSF00301-EPA	171.7
IW-BC-00403	Blue crab	2	11/28/06	0927 hours	IWBC00403-EPA	64.8

At 1640 hours, EA departed the site to purchase ice for sample preservation. EA packaged the samples, preserved the fish/crab tissue split samples in a shipping cooler with double-bagged ice, and completed sample documentation.

At 1722 hours, EA delivered the sample cooler to FedEx for priority overnight shipment to Pace Analytical (EA's subcontract laboratory) in St. Rose, Louisiana. EA submitted the fish/crab tissue split samples for the following analyses:

- Semivolatile organic compounds (SVOCs) using SW-846 Method 8270C (via selective ion monitoring [SIM])
- Total metals using SW-846 Method 6010B
- Organochlorine pesticides using SW-846 Method 8081A
- Percent lipids
- Moisture content

USFWS provided oversight of fish and crab collection activities conducted by BESI that evening.

### **29 November 2006**

From 0629 – 0954 hours, EA provided oversight of BESI's morning fish and crab collection activities (Photographs 10 – 15). BESI collected fish and crab specimens in adherence with PBW's SAP (May 2006) and Addenda to the FSP and QAPP (November 2006), as well as BESI's SOP 303 (Collection of Finfish and Crab Using Gill Nets) and SOP 304 (Collection of Blue Crab Using Commercial Crab Traps). During the morning haul, BESI collected 10 blue crabs and 1 sheepshead from the Site Area (Zones 1 and 2); and 15 blue crabs, 1 red drum, 1 southern flounder, and 1 sheepshead from the Background Area.

At 0954 hours, BESI returned to their dock at 110 Redfish Lane to begin processing samples.

At 1029 hours, BESI began processing fish collected from the Background Area, including 2 southern flounder, 3 spotted sea trout, 5 red drum, and 1 sheepshead (Photograph 16). BESI collected fish tissue samples following the same protocol outlined above.

At 1135 hours, BESI began processing fish collected from Zones 1 and 2, including 2 southern flounder, 7 spotted sea trout, and 1 sheepshead (Photograph 17). BESI collected fish tissue samples following the same protocol outlined above. No target species of finfish were caught in the Zone 3 and 4 gill nets.

At 1307 hours, EA accompanied EPA and PBW to reconnoiter the proposed soil background sampling area located northeast of the site near the end of Marlin Avenue.

At 1335 hours, EA returned to 110 Redfish Lane to observe BESI processing blue crabs.

At 1500 hours, BESI began processing the sample for the blue crab collected from the Background Area.

At 1553 hours, BESI began processing the sample for the blue crab collected from the Site Area (Zones 1 – 4).

USFWS noted no morphologies, lesions, or ulcers on any of the fish or crab collected; all specimens appeared healthy.

From 1658 – 1729 hours, EA provided oversight of BESI personnel resetting the gill nets for that evening's catch in Zones 1 and 2 only (Photograph 18).

From 2258 hours until 0008 hours the following morning (30 November), EA provided oversight of BESI's evening fish collection activities, which only yielded 1 red drum from Zone 1.

### **30 November 2006**

At 0848 hours, EPA informed EA that:

- BESI had collected 12 blue crabs from the Site Area (Zones 1 – 4) and no fish during that morning's catch; these additional crabs satisfied their quota for the Site Area.
- BESI would process the 12 crabs, as well as the 1 red drum collected during the previous evening's catch, and then cease sampling activities for the week due to an incoming winter front.
- EA field oversight would no longer be required this week.

At 0912 hours, EA demobilized from the site.

### **4 December 2006**

From 1709 – 1826 hours, EA provided oversight during the setting of gill nets in Zones 1 and 2, and the Background Area. Gill nets were deployed parallel to shoreline in the background area.

EA returned to the site at 2320 hours to provide oversight during fish collection activities from Zones 1 and 2, and the Background Area.

Fish collection at Zones 1 and 2 did not yield any red drum, spotted sea trout, or southern flounder. Background Area fish collection yielded 3 red drum, 3 southern flounder, and 1 spotted sea trout; all of the flounder and trout were undersized.

### **5 December 2006**

From 0031 to 0058 hours, EA continued to provide oversight during fish collection in the Background Area, which yielded 3 undersized red drum and 1 undersized spotted sea trout.

At 0930 hours, EA arrived at 110 Redfish Lane to conduct oversight of BESI's fish sample processing. Samples were collected from one fillet for each fish.

**TABLE 3 BESI FISH SAMPLE SUMMARY (4 – 5 DECEMBER 2006)**

BESI Sample ID	Target Species	Zone	Date Collected	Time Collected	Tissue Weight (gram)	Sample Weight (gram)
IW-RD-00003	Red Drum	1	12/05/06	0645 hours	N/A	194.9
IW-RD-00028	Red Drum	Background	12/04/06	2358 hours	193.6	150.9
IW-RD-00029	Red Drum	Background	12/04/06	2358 hours	312.9	171.9
IW-RD-00027	Red Drum	Background	12/05/06	0647 hours	311.1	150.6

At 1031 hours, BESI concluded sample processing and initiated decontamination procedures. Stainless-steel equipment and knife blades were decontaminated using Contrex™ detergent. All samples were weighed in tared sample containers following the same protocol outlined above. Rinsate blank samples were collected by submerging knife blades and tools into a resealable bag filled with deionized water. Deionized water was then poured from the resealable bag into rinsate sample containers. At 1115 hours, EA departed the site, as instructed by EPA. Oversight of fish collection activities from 5 – 6 December 2006 was conducted by USFWS and EPA.

### **6 December 2006**

From 0700 – 0754 hours, EA conducted oversight of BESI preparations at 110 Redfish Lane for the scheduled sediment and surface water sampling.

At 0754 hours, EPA, BESI, and EA departed for the Gulfco Marine Maintenance Site.

From 0817 – 0935 hours, EA conducted oversight of sediment sampling activities. BESI collected sediment samples using stainless-steel spoons or an Ekman dredge, depending on sediment conditions. Sediment was stored in a stainless-steel bowl for transport back to the staging area (110 Redfish Lane); however, sample aliquots for VOC analysis were collected at each sample location. At the staging area, samples were homogenized and placed into sample

containers by BESI. BESI collected samples 2WSED7, 2WSED13, and 2WSED14; EA did not obtain splits at these locations per direction from EPA.

At 1143 hours, EA obtained a split sample from BESI for sediment sample 2WSED15 (EA split sample 2WSED15-EPA). BESI collected 2WSED15 using an Ekman dredge at a depth of 9 inches below the water surface.

At 1213 hours, EA obtained a split sample from BESI for sediment sample 2WSED4 (EA split sample 2WSED4-EPA). BESI collected 2WSED4 using an Ekman dredge.

From 1243 – 1514 hours, EA conducted oversight of surface water sampling activities. BESI collected samples by pumping surface water directly into the sample containers using peristaltic pumps. Sample aliquots were also collected for dissolved metals by filtering the surface water prior to filling the appropriate sample containers.

At 1245 hours, EA obtained a split sample from BESI for surface sample 2WSW6 (EA split sample 2WSW6-EPA); however, EA did not obtain a split sample aliquot for dissolved metals analysis.

At 1505 hours, EA obtained a split sample from BESI for surface sample 2WSW3 (EA split sample 2WSW3-EPA). The VOC sampling method was altered slightly to expedite VOC sampling at this location. Surface water was first pumped into a pre-rinsed 1-liter amber glass container; then, the water from the 1-liter amber glass container was poured into each VOC glass vial. BESI deemed the force of the peristaltic pump force to be too powerful to effectively fill VOC containers.

TABLE 4 EA SEDIMENT/SURFACE WATER SPLIT SAMPLE SUMMARY  
(6 DECEMBER 2006)

BESI Sample ID	Date Collected	Time Collected	EA Split Sample ID
2WSED4	12/06/06	1213 hours	2WSED4 -EPA
2WSED15	12/06/06	1143 hours	2WSED15-EPA
2WSW6	12/06/06	1245 hours	2WSW6 -EPA
2WSW3	12/06/06	1505 hours	2WSW3 -EPA

From 1515 – 1553 hours, BESI and EA packaged samples for shipment and completed sample documentation.

At 1554 hours, EA and EPA met with Ms. Tammy Jean Brasher with Clean Harbors Environmental Services at the onsite tank farm to discuss the upcoming chloroform tank characterization and removal. All participants expressed concern about potentially contaminated standing water within the tank containment berm.



At 1604 hours, EA conducted oversight of BESI's procedure for collecting an equipment rinsate blank sample from decontaminated sediment sampling equipment. BESI poured deionized water over the sample dredge within a stainless-steel bowl. BESI then collected the rinsate blank by transferring the water from the stainless-steel bowl into the sample containers.

At 1634 hours, EA completed oversight activities and demobilized from the site.

### **7 December 2006**

At 1330 hours, EA delivered the sample cooler to FedEx for priority overnight shipment to Pace Analytical (EA's subcontract laboratory) in St. Rose, Louisiana. EA submitted the sediment/surface water split samples for the following analyses:

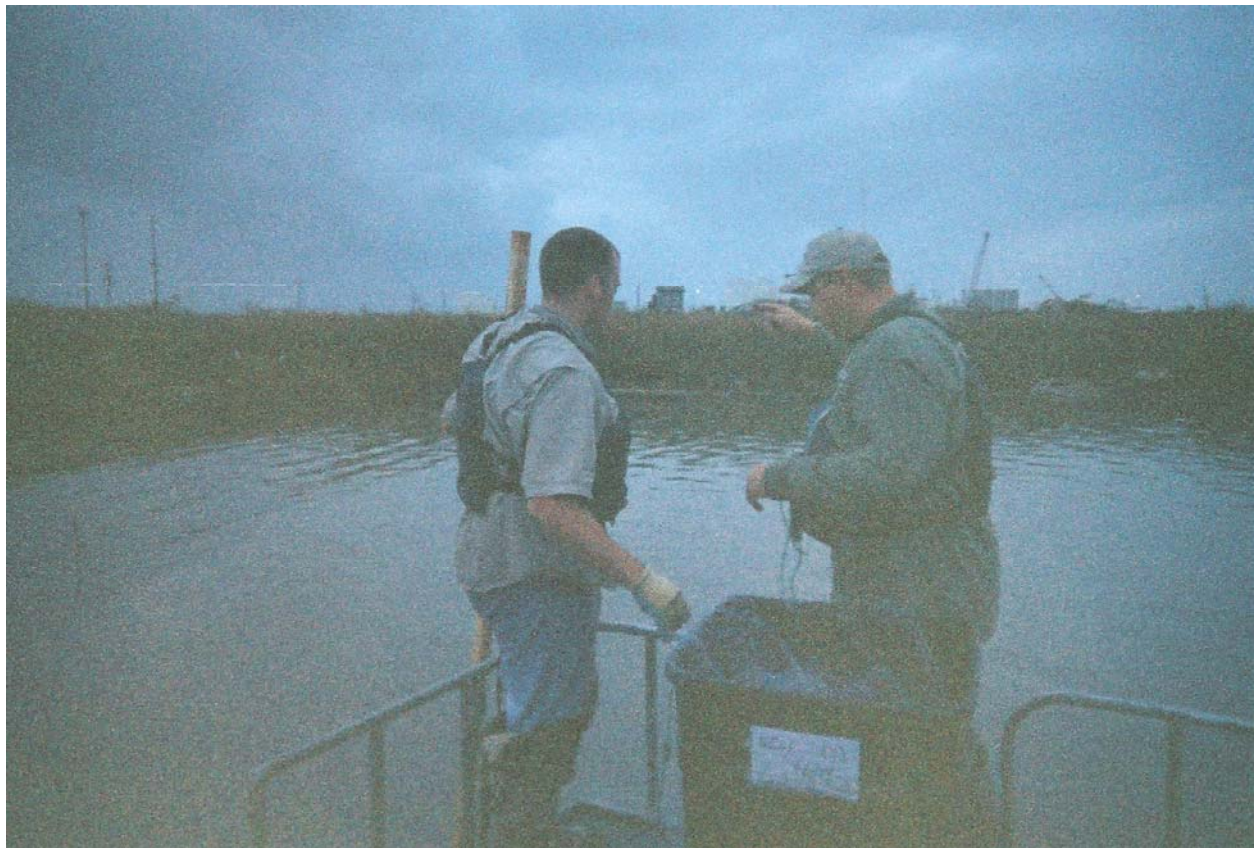
- Sediment
  - VOCs using SW-846 Method 8260B
  - SVOCs using SW-846 Method 8270C
  - Total metals using SW-846 Method 6010B
  - Organochlorine pesticides using SW-846 Method 8081A
  - Total polychlorinated biphenyls (PCBs) using SW-846 Method 8082
  - Moisture content
- Surface water
  - VOCs using SW-846 Method 8260B
  - SVOCs using SW-846 Method 8270C
  - Total metals using SW-846 Method 6010B
  - Dissolved metals using SW-846 Method 6010B (except split sample 2WSW6-EPA)
  - Organochlorine pesticides using SW-846 Method 8081A
  - Total PCBs using SW-846 Method 8082

### **REFERENCES**

- Pastor, Behling & Wheeler, LLC (PBW). 2005. "Remedial Investigation and Feasibility Study (RI/FS) Work Plan for the Gulfco Marine Maintenance Superfund Site, Freeport, Texas." May.
- PBW. 2006. "Sampling and Analysis Plan – Volume 1. Field Sampling Plan for the Gulfco Marine Maintenance Superfund Site, Freeport, Texas." May.
- PBW. 2006. "RI/FS Field Sampling Plan and Quality Assurance Project Plan Replacement Pages, Gulfco Marine Maintenance Superfund Site, Freeport, Texas." November.



# **PHOTOGRAPHS**



Photograph No. 1      Date: 27 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Attaching gill net to post at Zone 1



Photograph No. 2      Date: 27 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Setting gill net at Zone 1





Photograph No. 3      Date: 27 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Straightening (pulling taught) gill net at Zone 1



Photograph No. 4      Date: 27 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Attaching end of gill net to post at Zone 1





Photograph No. 5      Date: 28 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
 Description: Cataloging, labeling, and inspecting fish



Photograph No. 6      Date: 28 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
 Description: Decontamination areas used in biota processing



Photograph No. 7      Date: 28 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Filleting, weighting, and packaging fish filet samples



Photograph No. 8      Date: 28 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Measuring and weighing blue crab samples





Photograph No. 9      Date: 28 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Processing, weighing, and packaging crab samples



Photograph No. 10      Date: 29 November 2006      Site: Gulfco Marine Maintenance Superfund Site  
Description: Collecting fish from gill net





Photograph No. 11    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Removing gill nets from Zone 3



Photograph No. 12    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Checking gill nets at Background Area





Photograph No. 13    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Collecting red drum from gill net at Background Area



Photograph No. 14    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Measuring red drum from Background Area





Photograph No. 15    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Collecting blue crab from Background Area



Photograph No. 16    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Categorizing and labeling fish from Background Area





Photograph No. 17    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Categorizing and labeling fish from Site Area



Photograph No. 18    Date: 29 November 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: Setting gill nets at Zone 1





Photograph No. 19    Date: 6 December 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: BESI sediment/surface water staging and sampling area



Photograph No. 20    Date: 6 December 2006    Site: Gulfco Marine Maintenance Superfund Site  
Description: BESI stainless-steelware used to composite sediment samples